**What is claimed is:**

1. A heat exchanger comprising:
a plurality of fins spaced from each other in parallel allowing an air flow to pass through a gap therebetween;
a plurality of heat transfer tubes extending through the fins; and
a vortex generator comprising a plurality of protuberance ribs formed on the fin and centralized with the heat transfer tube, an air flow inlet being defined between adjacent two of the protuberance ribs and an air flow outlet being defined between other adjacent two of the protuberance ribs;
wherein the air flow is guided from the air flow inlet, through channels defined between the vortex generator and the heat transfer tube, and passes out of the air flow outlet, thereby speeding the air flow, and generating vortexes at the protuberance ribs and the air flow outlet for draining outer air to the heat exchanger for air mixing.
2. The heat exchanger as claimed in claim 1, wherein the vortex generator comprises two front protuberance ribs beside the air flow inlet and two rear protuberance ribs beside the air flow outlet and a gap is defined between the front protuberance rib and the rear protuberance rib adjacent to each other.
3. The heat exchanger as claimed in claim 1, wherein the vortex generated at one side with respect to the air flow and the vortex generated at an opposite side with respect to the air flow are either co-rotating or counter-rotating.
4. The heat exchanger as claimed in claim 1, wherein the protuberance ribs of the vortex generator are projected in one direction of the fin.
5. The heat exchanger as claimed in claim 1, wherein the protuberance ribs of the vortex generator are formed as a curved shape along the extension of the fin.
6. The heat exchanger as claimed in claim 1, wherein each protuberance rib is shaped as an arc having a curved surface.
7. The heat exchanger as claimed in claim 1, wherein each protuberance rib has a vertical wall connected to a horizontal wall.

8. The heat exchanger as claimed in claim 1, wherein each protuberance rib has a sloped wall connected to a horizontal top wall.
9. The heat exchanger as claimed in claim 1, wherein each protuberance rib has a vertical wall connected to a curved wall.
10. The heat exchanger as claimed in claim 1, wherein each protuberance rib has two sloped walls connected together to form a triangular shape.
11. The heat exchanger as claimed in claim 1, wherein each protuberance rib has a vertical wall connected to sloped wall and the vertical wall is located between the heat transfer tube and the sloped wall.
12. The heat exchanger as claimed in claim 1, wherein each protuberance rib has a vertical wall connected to sloped wall and the sloped wall is located between the heat transfer tube and the vertical wall.
13. A heat exchanger comprising:
a plurality of fins spaced from each other in parallel allowing an air flow to pass through a gap therebetween;
a plurality of heat transfer tubes extending through the fins; and
a vortex generator comprising a plurality of inner protuberance ribs formed on the fin and centralized with the heat transfer tube, an air flow inlet being defined between adjacent two of the inner protuberance ribs and an air flow outlet being defined between other adjacent two of the inner protuberance ribs; a plurality of outer protuberance ribs formed on the fin and centralized with the heat transfer tube and respectively corresponding to the inner protuberance ribs, an air flow inlet being defined between adjacent two of the outer protuberance ribs and an air flow outlet being defined between other adjacent two of the outer protuberance ribs;
wherein the air flow is guided from the air flow inlet, through channels defined between the vortex generator and the heat transfer tube, and passes out of the air flow outlet, thereby speeding the air flow and draining wake lagged in the air flow outlet away from the air flow outlet, and generating vortexes at the protuberance ribs and the air flow outlet for draining outer air to the heat exchanger for air mixing.
14. The heat exchanger as claimed in claim 13, wherein the inner

protuberance ribs of the vortex generator comprises two front protuberance ribs beside the air flow inlet and two rear protuberance ribs beside the air flow outlet thereof and a gap is defined between the front protuberance rib and the rear protuberance rib adjacent to each other; and the outer protuberance ribs of the vortex generator comprises two front protuberance ribs beside the air flow inlet and two rear protuberance ribs beside the air flow outlet thereof and a gap is defined between the front protuberance rib and the rear protuberance rib adjacent to each other.

15. The heat exchanger as claimed in claim 13, wherein the vortex generated at one side with respect to the air flow and the vortex generated at an opposite side with respect to the air flow are either co-rotating or counter-rotating.

16. The heat exchanger as claimed in claim 13, wherein the inner protuberance ribs of the vortex generator are projected in a first direction of the fins and the outer protuberance ribs of the vortex generator are projected in a second direction of the fins opposite to the first direction.

17. The heat exchanger as claimed in claim 13, wherein the inner and outer protuberance ribs of the vortex generator are formed as a curved shape along the extension of the fin.

18. The heat exchanger as claimed in claim 13, wherein each of the inner and outer protuberance ribs is shaped as an arc having a curved surface.

19. The heat exchanger as claimed in claim 13, wherein each of the inner and outer protuberance ribs has a vertical wall connected to a horizontal wall.

20. The heat exchanger as claimed in claim 13, wherein each of the inner and outer protuberance ribs has a sloped wall connected to a horizontal top wall.

21. The heat exchanger as claimed in claim 13, wherein each of the inner and outer protuberance ribs has a vertical wall connected to a curved wall.

22. The heat exchanger as claimed in claim 13, wherein each of the inner and outer protuberance ribs has two sloped walls connected together to form a triangular shape.

23. The heat exchanger as claimed in claim 13, wherein each of the inner and outer protuberance ribs has a vertical wall connected to sloped wall and

the vertical wall is located between the heat transfer tube and the sloped wall.

24. The heat exchanger as claimed in claim 13, wherein each of the inner and outer protuberance ribs has a vertical wall connected to sloped wall and the sloped wall is located between the heat transfer tube and the vertical wall.